LOCTITE®

“Do It Right” User’s Guide

The “WHEN, WHERE & HOW” to Use Loctite® Maintenance Products

Henkel Excellence is our Passion

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The primary function of this User's Guide is to help you, the maintenance professional, with the proper selection and use of Loctite® products. A wide variety of preventative maintenance, as well as repair techniques, are explained in step-by-step detail. Consider this a supplemental service manual for every piece of equipment in your plant. Our goal is to make it easier for you to use our products to your benefit for faster repair times, reduced downtime, and extended equipment life. Additional information on these products, as well as others, is available by contacting your local Henkel adhesives and sealants representative at the telephone number listed on the back cover of this guide.

"Always refer to Technical Data Sheet prior to product selection"

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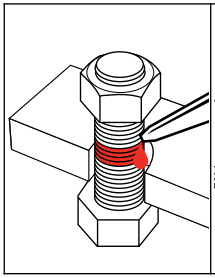
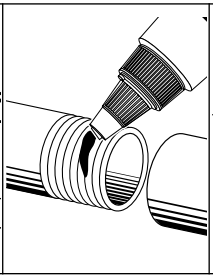
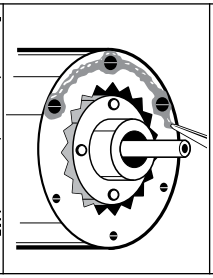
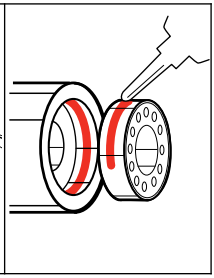
INTRODUCTION

INTRODUCTION TO ANAEROBIC ADHESIVES AND SEALANTS

Anaerobic adhesives and sealants were developed by Loctite in 1953 and since then have significantly evolved to the most technically advanced range of industrial maintenance products available today. Products that increase equipment reliability, reduce costs and improve quality throughout industry.

Anaerobic adhesives and sealants are resins that convert from liquid to a tough structural solid in the absence of air and the presence of metal. The primary functions of anaerobic resins are:

Threadlocking	Thread Sealing	Gasketing	Retaining
			

Each one of these functions is based upon control of five major variables: strength, viscosity, adhesion, flexibility, and temperature resistance. These five parameters give anaerobics users considerable latitude in adjusting properties for optimum performance in specific application areas.

Another variable that should be considered is the substrate in which the adhesive will be applied. For certain substrates or other special requirements, the use of a primer is recommended.

WHY USE A PRIMER?

1. Primers activate inactive surfaces.
2. Primers speed up cure times for faster return to service.
3. Primers speed curing time through larger gaps and deep threads (limits apply)*.
4. Primers substantially reduce cure times on cold parts (refer product TDS)*.

Primers act as cleaning agents.

Active surfaces (primer optional): brass, copper, bronze, iron, soft steel.

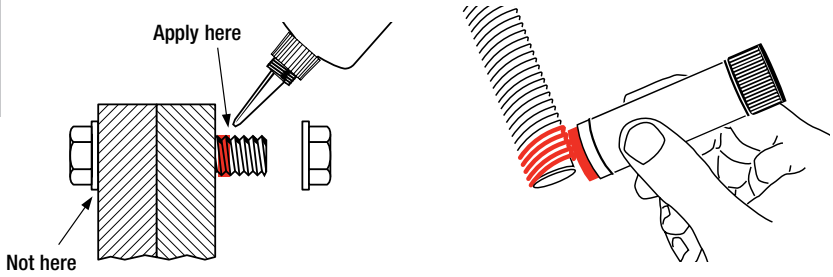
Inactive surfaces (primer required): aluminum, stainless steel, magnesium, zinc, black oxide, cadmium, titanium, nickel, others.

**Refer to relevant product Technical Data Sheet*

THREADLOCKING

THROUGH HOLES (BOLTS AND NUTS)

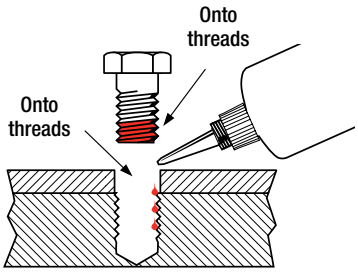
LIQUID AND SEMISOLIDS



1. Clean all threads (bolt and nut) with Loctite ODC-Free Cleaner & Degreaser.
2. If required, apply on all threads Loctite 7649 Primer or Loctite 7471 Primer. Allow to dry.
3. Select the appropriate strength Loctite threadlocker.
4. Insert bolt into through hole assembly.
5. Apply several drops of liquid threadlocker onto bolt at tightened nut engagement area or, when using the stick product, completely fill the root of the threads at the area of engagement.
6. Assemble and tighten nut to required torque.

BLIND HOLES (HEX HEAD SCREWS, ETC.)

LIQUID ONLY



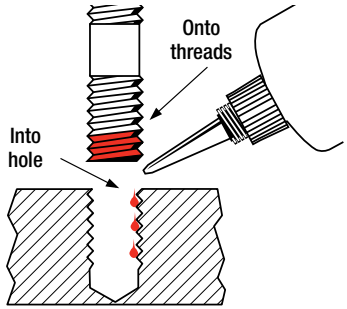
1. Clean all threads (bolt and hole) with Loctite ODC-Free Cleaner & Degreaser.
2. If required, spray (bolt and hole) with Loctite 7649 Primer or Loctite 7471 Primer. Allow 30 seconds to dry.
3. Select the appropriate strength Loctite threadlocker.
4. Squirt several drops down the sides of the female threads.
5. Apply several drops onto bolt.
6. Assemble and tighten nut to required torque.

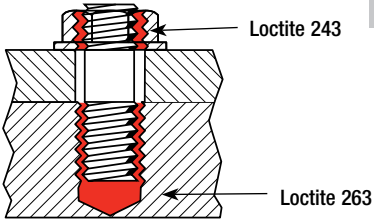
Note: Using Loctite threadlockers can reduce stripping of threads in aluminum or magnesium housings caused by galvanic corrosion.

THREADLOCKING

BLIND HOLES (STUDS, ETC.)

LIQUID ONLY

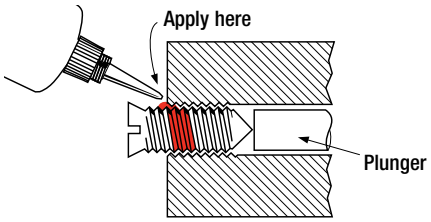




1. Clean all threads (bolt and hole) with Loctite ODC-Free Cleaner & Degreaser.
2. If required, apply on all threads Loctite 7649 Primer or Loctite 7471 Primer. Allow to dry.
3. Apply several drops of Loctite 263 Threadlocker down the sides of the female threads.

   Note: Use Loctite 277 Threadlocker if stud is over 25mm diameter.
4. Apply several drops of Loctite 263 Threadlocker onto stud threads.
5. Install studs.
6. Position cover, head, etc.
7. Apply drops of Loctite 243 Threadlocker onto exposed threads.
8. Assemble and tighten nut to required torque.

ADJUSTMENT SCREWS



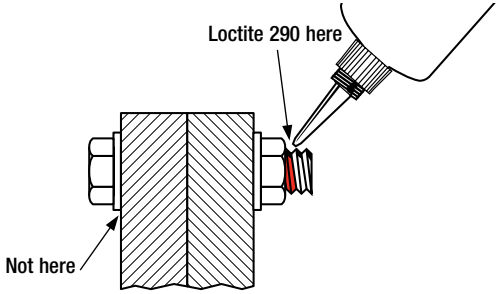
1. Adjust screw to proper setting.
2. Apply several drops of Loctite 290 Threadlocker at screw and body juncture.
3. Avoid touching bottle tip to metal.

   Note:
   - If readjustment is difficult, apply heat to screw with soldering iron (230°C).
   - The viscosity of the Threadlocker must be compatible to the thread pitch.

THREADLOCKING

PRE-ASSEMBLED FASTENERS

LIQUID ONLY



1. Clean bolts and nuts with Loctite ODC-Free Cleaner & Degreaser.
2. Assemble components.
3. Tighten nuts.
4. Apply several drops of Loctite 290 Threadlocker at the nut and bolt juncture.
5. Avoid touching bottle tip to metal.

Note: For preventive maintenance on existing equipment, RETIGHTEN nuts to required torque and apply Loctite 290 Threadlocker at the nut and bolt juncture.

LOCTITE® THREADLOCKER QUICK SELECTOR

Use	Strength	Product	Colour
Small Screws	Low	**Loctite 222**	Purple
Nuts & Bolts	Medium	**Loctite 243 / Loctite 248**	Blue
Pre-assembled	Medium	**Loctite 290**	Green
Nuts & Bolts	High	**Loctite 263 / Loctite 268**	Red
Studs (up to 25mm)	High	**Loctite 263**	Red
Studs (over 25mm)	High	**Loctite 277**	Red

THREADLOCKING

TECHNICAL DATA

PRODUCT	Loctite 222	Loctite 243	Loctite 263	Loctite 290
Size of Thread*	up to M36	up to M36	up to M36	up to M20
Strength	Low	Medium	High	Medium
Breakaway/Prevail Torque (N.m) on MIO	6/4	26/5	33/33	10/29
Temperature Range (°C)	-55 to 150	-55 to 180	-55 to 180	-55 to 150
Cure Speed	Slow/Med	Medium	Medium	Medium
Primer	7471	7649	7649	7649
Colour	Purple	Blue	Red	Green
Viscosity (c.P)	1,200 Thixotropic Liquid	2,250 Thixotropic Liquid	500 Liquid	20 Liquid

WHEN TO USE PRIMERS

Primers are used when the surfaces to be threadlocked and sealed are not active enough to cause curing to take place or when the cure is required to be accelerated. The table below shows common materials and when to use primer.
Select the correct primer from the above.

ACTIVE SURFACES (PRIMER NOT REQUIRED)		INACTIVE SURFACES (PRIMER REQUIRED)	
Brass	Copper	Aluminium	Black Oxide
Bronze	Iron	Stainless Steel	Anodised
		Magnesium	Passivated Surfaces
		Zinc	Titanium
		Nickel	Galvanised

Primers are used when temperature is low and quick turnaround time is required as well as when there is a gap situation <0.2mm.

CHARCTERISTICS/ADVANTAGES OF ANAEROBIC THREADLOCKERS

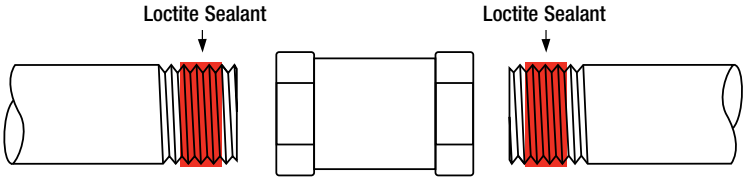
- Flat washer can still be used with threadlockers.
- Threadlockers lubricate threads for proper assembly torque tension ratio.
- Threadlockers work on all size and types of fasteners.
- Threadlocker strength is selectable (High, Medium, Low) depending on requirements.
- Threadlockers improve breakaway and prevailing torque.
- Threadlockers lock and seal, preventing corrosion and leakage.
- High strength threadlockers can be disassembled with heat (see page 31).
- All anaerobic threadlockers have high chemical resistance.

IMPORTANT NOTE: Do not use anaerobic threadlockers on most thermoplastics (ABS, PVC, etc). Softening and/or stress cracking may occur.

** The viscosity of the Threadlocker must be compatible to the thread pitch.*

THREADSEALING

STANDARD FITTINGS – PIPES, HYDRAULIC, OR AIR



1. Clean parts of contamination. If required, spray Loctite 7649 Primer or Loctite 7471 Primer onto threaded parts (male and female). Allow to dry.

   Note: Primer is not required for active metals.

2. Apply a band of Loctite PST Thread Sealant to male threads starting one to two threads from end of pipe.
3. Assemble parts snugly. Do not overtighten.
4. If initial pressure exceeds 1000 psi*, wait 30 minutes before pressurizing.

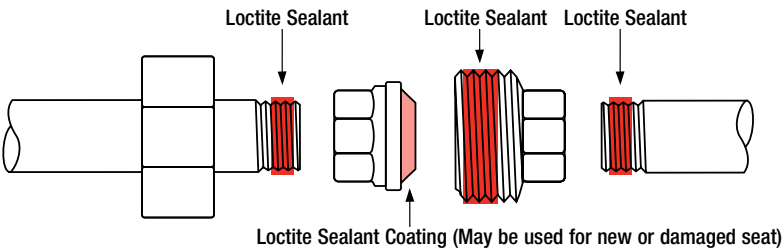
Note:

- For general purpose thread sealing, use Loctite 565 PST Thread Sealant or Loctite 561 PST Pipe Sealant.
- For fine filtration systems requiring zero contamination, use Loctite 569 or Loctite 542 Thread Sealant for hydraulic/pneumatic fittings.
- For easier disassembly or large diameter fittings, use Loctite 567 Thread Sealant.
- If sealing chemicals or strong acids/bases, refer to Fluid Compatibility Chart.
- If sealing potable water systems, use Loctite 577 Pipe Sealant or Loctite 55 Pipe Sealing Cord.
- Do not use on oxygen rich or strong oxidizers (chlorine) systems.
- For PVC or ABS pipe, use Loctite 5331 (pressure <500kpa only) or Loctite 55 Pipe Sealing Cord.

**Depending on conditions*

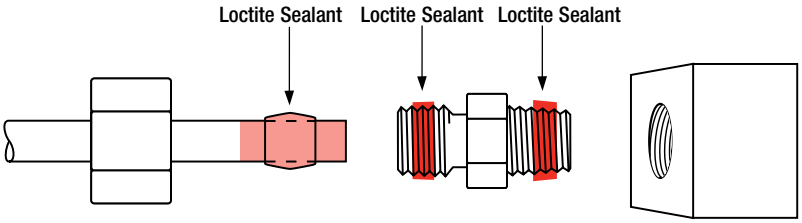
THREADSEALING

PIPE UNIONS



1. Disassemble and, if necessary, spray all components with Loctite 7649 Primer or Loctite 7471 Primer. Allow to dry.
2. Apply a thin coating of Loctite 567 PST Thread Sealant to union face.
3. Apply a band of Loctite 567 PST Thread Sealant to male threads.
4. Assemble parts snugly.

COMPRESSION FITTINGS



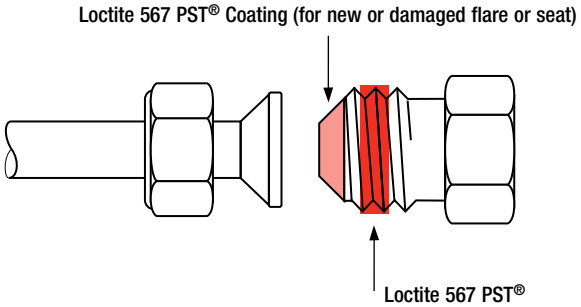
1. Slide fitting nut and ferrule back approximately 20mm from end of tubing.
2. If required, spray the entire assembly with Loctite 7649 Primer. Allow to dry.

   Note: Primer is not required for active metals.
3. Apply a thin coating of Loctite 567 PST Thread Sealant to tubing where ferrule will be located.
4. Slide ferrule forward over Loctite 567 PST Thread Sealant coated tubing, then apply a thin bead of Loctite 567 PST Thread Sealant coating to ferrule.
5. Slide ferrule forward over Loctite 567 PST Thread Sealant coated tubing.
6. Apply a small band of Loctite 567 PST Thread Sealant to male threads.
7. Assemble and tighten normally.

   Note: Do not use on plastic fittings or tubing.

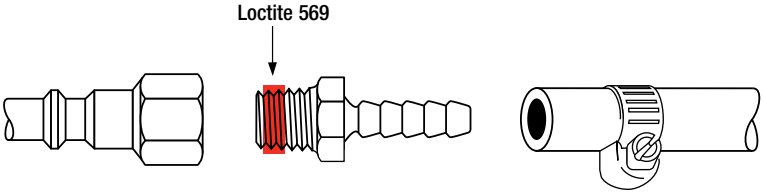
THREADSEALING

FLARED/SWAGED FITTINGS



1. Disassemble and, if necessary, apply to all components Loctite 7649 Primer or Loctite 7471 Primer. Allow to dry.
2. Apply a thin coating of Loctite 567 PST Thread Sealant to fitting face.
3. Apply a band of Loctite 567 PST Thread Sealant to male threads.
4. Assemble parts snugly.

HOSE ENDS – AIR & HYDRAULIC



1. If necessary, spray adapter threads with Loctite 7649 Primer or Loctite 7471 Primer. Allow to dry.
2. Apply a coating of Loctite 569 Thread Sealant to male hose stem threads upon installation or adding accessory device. Tighten to require torque.
3. Insert barbed hose stem into hose I.D. with slight twisting motion.
4. Install appropriate hose clamp.

Note: Loctite 569 Thread Sealant may attack synthetic rubber tubing.

THREADSEALING

LOCTITE® THREAD SEALANT QUICK SELECTOR

Application	Product	Primer	Instant Seal	Max. Pressure	Steam Pressure	Temp Range
All Metal Fittings	Loctite 567 Master Pipe Sealant (Low Medium Strength)	Loctite 7649	500 psi	10,000 psi (24hrs)	n/a	-55°C to 205°C
High Filtration / Zero Contamination Systems	Loctite 569 Hydraulic Sealant (Medium Strength)	Loctite 7471	500 psi (10 min)	10,000 psi (24hrs)	n/a	-55°C to 150°C
All Metal Fittings	Loctite 577 High Pressure Pipe Sealant (High Strength)	Loctite 7649	500 psi	10,000 psi (24hrs)	n/a	-55°C to 150°C

Note: Ambient conditions and material configurations can affect cure times. (Refer to relevant TDS.)

FLUID COMPATIBILITY

1. Refer to Fluid Compatibility Chart (see pages 38-39).
2. Contact your local Industrial Distributor.
3. Call Henkel Technical Information on 1300 88 555 6.

TECHNICAL DATA

PRODUCT	Loctite 569	Loctite 542	Loctite 567	Loctite 577	Loctite 55 SEALING CORD
Size of Thread	up to 19mm	up to 25mm	up to 76mm	up to 76mm	up to 100mm
Strength	Low	Medium	Low	Medium	Low
Breakaway/Prevail Torque (N.m) on MIO	2.8/1.1	15/9	1.7 / N/A	11/6	N/A
Temperature Range (°C)	-55 to 150	-55 to 150	-55 to 205	-55 to 150	-55 to 149
Cure Speed	Medium	Medium	Slow	Medium	Instant
Optional Primer	7471	7649	7649	7649	N/A
Colour/Format	Brown/Liquid	Brown/Liquid	White/Gel	Yellow/Gel	White/Cord
Viscosity (c.P)	400	2000	540,000	24,000	N/A

WHEN TO USE PRIMERS

Primers are used when the surfaces to be threadlocked and sealed are not active enough to allow curing to take place or when the cure is required to be accelerated. The table below shows common materials and when to use primer.
Select the correct primer from the table.

ACTIVE SURFACE (PRIMER NOT REQUIRED)		INACTIVE SURFACE (PRIMER REQUIRED)	
Brass	Copper	Aluminium	Black Oxide
Bronze	Iron	Stainless Steel	Anodised
		Magnesium	Passivated Surfaces
		Zinc	Titanium
		Nickel	Galvanised

Primers are used when temperature is low and quick turnaround time is required as well as when there is a gap situation <0.2mm.

CHARACTERISTICS/ADVANTAGES OF ANAEROBIC THREAD SEALING

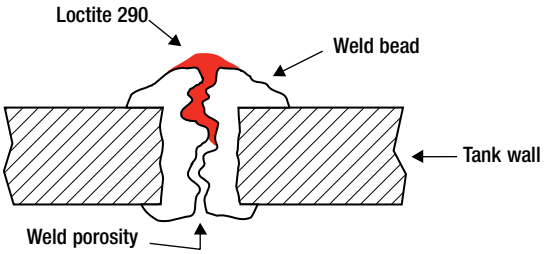
- Anaerobic thread sealants flow into and completely fill all voids, eliminating leak paths.
- Anaerobic thread sealants seal and threadlock simultaneously.
- Thread sealants work on all size and types of fittings (see quick selector).
- Thread sealant strength is selectable (Medium or Low) depending on requirements.
- Thread sealants can be disassembled with normal tools.
- Loctite 55 Pipe Sealing Cord is a non curing impregnated nylon cord.

IMPORTANT NOTE: Do not use anaerobic sealants on plastic pipe or plastic fittings. For plastic fittings use Loctite 55 Pipe Sealing Cord.

** The viscosity of the Sealants must be compatible to the thread pitch.*

POROSITY SEALING

EXISTING WELD POROSITIES AND CASTINGS



1. IMPORTANT! TAKE PROPER SAFETY PRECAUTIONS IF WORKING WITH FLAMMABLE LIQUID TANKS. AVOID USE WITH COMPRESSIBLE GASSES.
2. Wire brush repair area to remove paint, rust, etc.
3. Clean repair area with Loctite ODC-Free Cleaner & Degreaser.
4. Apply localized heat to bring repair area to approximately 120°C.
5. Allow repair area to cool to approximately 85°C.
6. Brush or spray sealant on repair area.

   Note:
   - Steel – Use Loctite 290 Threadlocker at 85°C.
   - Aluminum/Stainless Steel – Use Loctite 290 Threadlocker at 50°C.

   Note:
   - Not recommended for “blowholes.”
   - Maximum porosity sealed – 0.1mm.
7. Allow to cure for 30 minutes (High Pressure, above 150 psi — 1 hour).
8. Clean with Loctite ODC-Free Cleaner & Degreaser to remove excess sealant. Do not grind.
9. Paint as required.

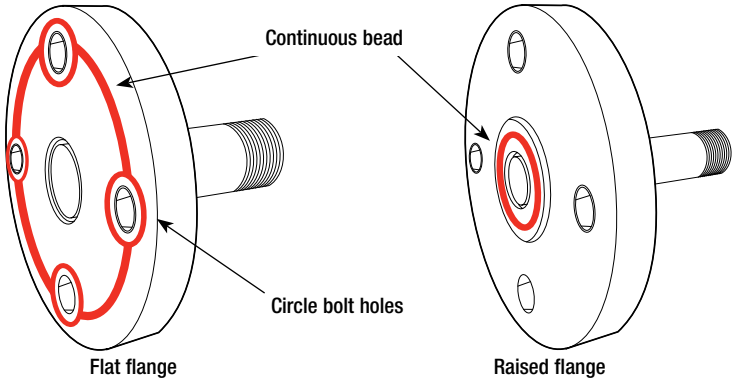
   Note: Casting repair uses same procedure.

SEALING NEW WELDS — PREVENTATIVE MAINTENANCE

1. Remove all slag and scale while hot.
2. Apply sealant when weld is 85°C and falling.
3. Follow information above.

FORM-IN-PLACE GASKETING

SEALING CAST RIGID FLANGES



1. Remove old gasketing material and other heavy contaminants with Loctite Chisel Paint Stripper. Use mechanical removal technique if required.

   Note: Avoid grinding.

2. Clean both flanges with Loctite ODC-Free Cleaner & Degreaser.
3. Where required spray Loctite 7649 Primer or Loctite 7471 Primer on only one surface. Allow 1-2 minutes to dry.
4. Apply a continuous bead of Loctite Gasket Eliminator Flange Sealant to the other surface.

   Note: Circle all bolt holes with sealant, if appropriate.

5. Mate Parts. Assemble and tighten as required.

   Note: Immediate assembly not required; however, avoid delays over 45 minutes.

6. Allow to cure:
   a. No pressure – immediate service
   b. Low pressure (up to 500 psi) – 30 to 45 minutes
   c. High pressure (500 to 2500 psi) – 4 hours
   d. Extreme high pressure (2500 to 5000 psi) – 24 hours

   Note: Ambient conditions can influence these times.

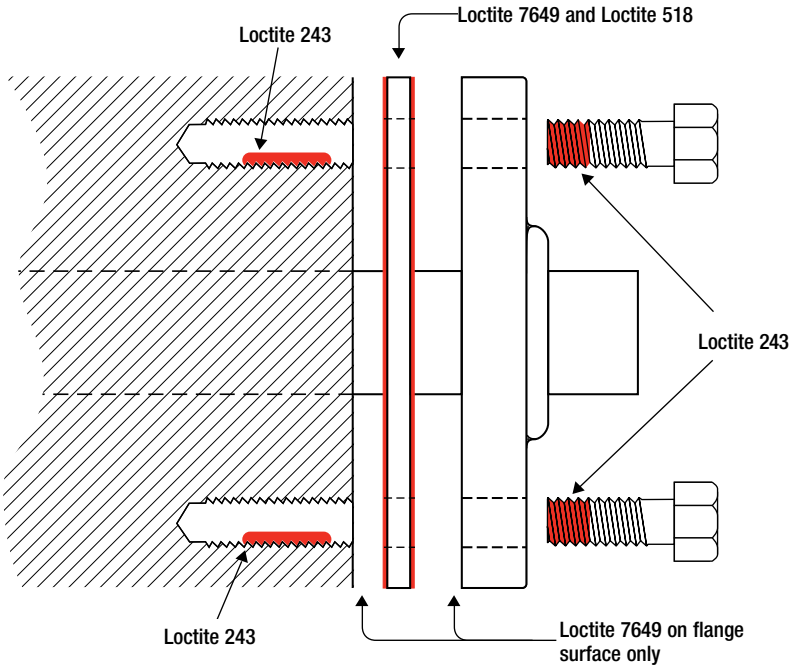
LOCTITE® GASKETING QUICK SELECTOR

Use	Product	Gap Fill	Temp. Range
General	Loctite 518 Gasket Eliminator	0.25mm	-55°C to 150°C
General	Loctite 515 Gasket Eliminator	0.25mm	-55°C to 150°C
High Temperature	Loctite 510 Gasket Eliminator	0.25mm	-55°C to 200°C

Note: Ensure that assembly time is within product fixturing time.

GASKET DRESSING

SEALED FLANGES



1. Remove old gasketing material and other heavy contaminants with Loctite Chisel Gasket Remover. Use mechanical removal technique if required.

   Note: Avoid grinding.

2. Clean both flanges with Loctite ODC-Free Cleaner & Degreaser.
3. Spray Loctite 7649 Primer on both flange faces and both sides of the precut gasket. Allow 30 seconds to dry.
4. Smear Loctite Gasket Eliminator Flange Sealant to both sides of precut gasket with a clean applicator.
5. Place coated gasket on flange surface and assemble parts immediately.

   Note:
   - If cover bolts screw into blind holes (as above), apply Loctite 243 Threadlocker into hole and on threads. Tighten as required.
   - If it is a threaded through bolt assembly, apply Loctite 243 Threadlocker or Loctite 248 Threadlocker to bolt threads.

6. Tighten bolt as required.

FLANGE SEALING

TECHNICAL DATA

PRODUCT	Loctite 510	Loctite 515	Loctite 518
Flange Type	Rigid	Rigid	Rigid Alloy
Temperature	-55 to 200	-55 to 150	-55 to 150
Gap Fill (mm)	up to 0.25mm	up to 0.25mm	up to 0.25mm
Cure Speed	24 hrs / Slow	24 hrs / Medium	Fast
Optional Primer	7649	7471 / 7649	7471 / 7649
Viscosity (c.P)	High	High	High Thixotropic
Oil Resistance	Excellent	Excellent	Excellent

WHEN TO USE PRIMERS

Primers are used when the surfaces to be sealed are not active enough to cause curing to take place or when the cure is required to be accelerated. The table below shows common materials and when to use primer. Select the correct primer from the table.

ACTIVE SURFACES (PRIMER NOT REQUIRED)		INACTIVE SURFACES (PRIMER REQUIRED)	
Brass	Copper	Aluminium	Black Oxide
Bronze	Iron	Stainless Steel	Anodised
		Magnesium	Passivated Surfaces
		Zinc	Titanium
		Nickel	Galvanised

Primers are used when temperature is low and quick turnaround time is required.

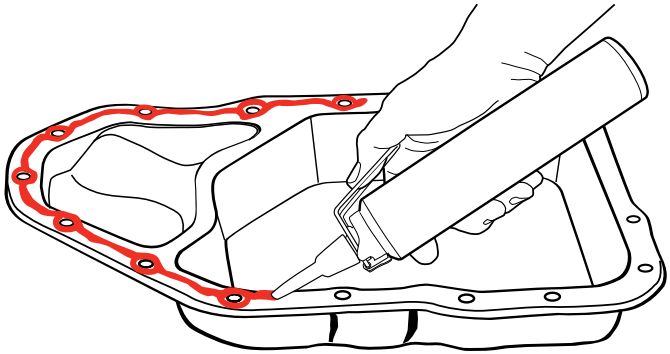
CHARCTERISTICS/ADVANTAGES OF GASKETING

- Form-in-place gasketing resists compression set.
- Form-in-place gasketing fills all voids eliminating gaps.
- Form-in-place gasketing provides a universal fit and is always in stock.
- Form-in-place gasketing provides on-site applications and saves you time.
- Form-in-place gasketing is easy to clean up.

IMPORTANT NOTE: Do not use anaerobic flange sealants on most thermoplastics (ABS, PVC, etc). Softening and/or stress cracking may occur.

FORM-IN-PLACE SILICONES

STAMPED OR SHEET METAL FLANGES



1. Remove old gasketing material and other heavy contaminants with Loctite Chisel Paint Stripper.
2. Clean both flanges with Loctite ODC-Free Cleaner & Degreaser.
3. Apply a continuous bead of Loctite Instant Gasket or Loctite Maxx high performance silicones to sealing surface. Circle all bolt holes.

   Note:
   - Use proper bead diameter to seal flange width and depth.
   - Minimize excessive material “squeeze in.”

4. Assemble within 10 minutes by pressing together. Tighten as required.
5. Clean up any excess or squeeze out.
6. Cure times will vary with temperature, humidity, and gap. Typical full cure time is 24 hours.

LOCTITE® MAXX SERIES SILICONES QUICK SELECTOR

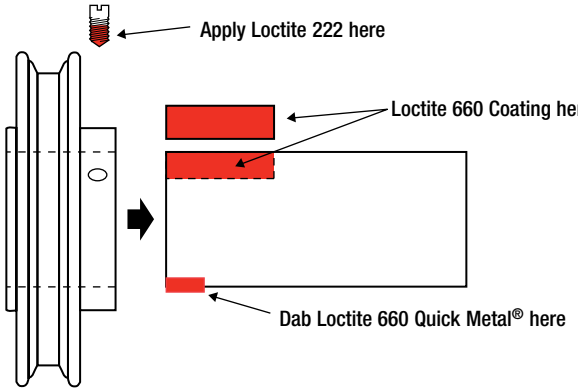
PRODUCT	Loctite 587 BLUE MAXX	Loctite 5900 BLACK MAXX	Loctite 5699 GREY MAXX	Loctite COPPER MAXX
Flange Type	Flexible	Flexible	Japanese Vehicle	Flexible
Temperature[1]	-60 to 260°C	-60 to 200°C	-60 to 200°C	-60 to 316°C
Gap Fill (mm)	6mm	6mm	3mm	6mm
Sensor Safe	Yes	Yes	Yes	Yes
Cure (Tack Free)	10 - 50 min.	5 min.	10 min.	20 - 60 min.
Full Cure	24 - 72 hrs.	24 hrs.	24 hrs.	24 - 96 hrs.
Oil Resistance	Excellent	Excellent	Excellent	Excellent
Instant Seal	No	Yes[2]	No	No

Note: Ensure that assebly time is within product skin overtime.

[1] *Continuous service. Intermittent temperature higher than established range.*
[2] *Seals instantly at zero gap.*

STRENGTHEN KEYED ASSEMBLIES

STANDARD DUTY



ASSEMBLY

1. Clean all parts with Loctite ODC-Free Cleaner & Degreaser.
2. If necessary, apply onto all parts (I.D. and O.D.) Loctite 7649 Primer or Loctite 7471 Primer.
3. Apply Loctite 660 Quick Metal Retaining Compound coating into keyway and on key.
4. Apply Loctite 660 Quick Metal Retaining Compound onto shaft opposite keyway or evenly spaced around shaft.
5. Assemble parts. Wipe off excess.
6. Apply Loctite 222 Threadlocker to set screw.
7. Tighten set screw.
8. Allow 30 minutes prior to service.

Note:
- Loctite 660 Quick Metal Retaining Compound is NOT recommended for gaps exceeding 0.25mm on shaft or keyway.
- See REPAIRING BADLY WALLOWED KEYWAY, page 21, for procedure.

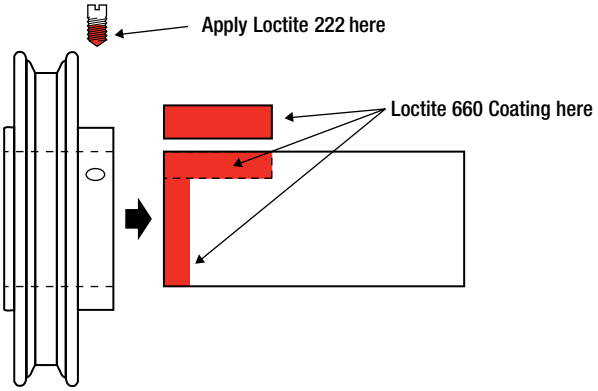
DISASSEMBLY

1. Tap component and key with hammer.
2. Pull as usual.

Note: Loctite 660 Quick Metal Retaining Compound is not a metal rebuild product.

STRENGTHEN KEYED ASSEMBLIES

HEAVY DUTY



ASSEMBLY

1. Clean all parts with Loctite ODC-Free Cleaner & Degreaser.
2. Apply a coating of Loctite 660 Quick Metal Retaining Compound coating around shaft, into keyway, and on key.
3. Assemble parts. Wipe off excess.
4. Apply a dab of Loctite 222 Threadlocker to screw.
5. Tighten set screw.
6. Allow 30 minutes prior to service.

Note:

- If gap exceeds 0.12mm, use Loctite 7471 Primer on appropriate area (shaft or keyway).
- Loctite 660 Quick Metal Retaining Compound are NOT recommended for gaps exceeding 0.25mm on shaft or keyway.
- See REPAIRING BADLY WALLOWED KEYWAY, page 21, for procedure.

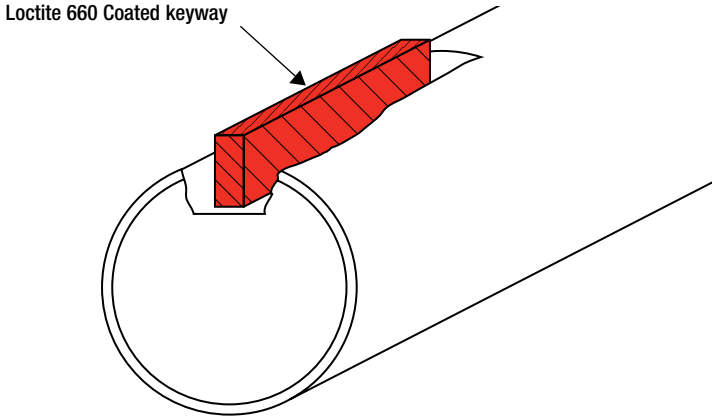
DISASSEMBLY

1. Tap component and key with hammer.
2. If necessary, apply localized heat (230°C for five minutes).
3. Pull while hot.

Note: Loctite 660 Quick Metal Retaining Compound is not a metal rebuild product.

STRENGTHEN KEYED ASSEMBLIES

REPAIRING BADLY WALLOWED KEYWAY



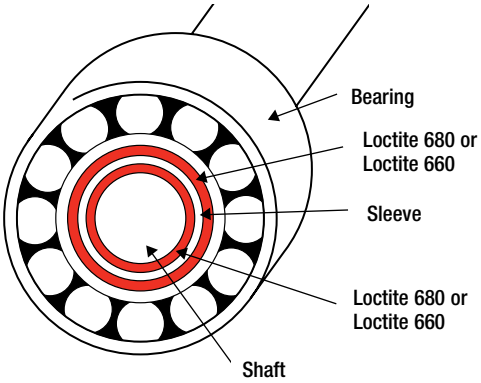
1. Clean all parts with Loctite ODC-Free Cleaner & Degreaser.
2. If necessary, apply onto all parts with Loctite 7471 Primer. Allow to dry.
3. Apply a coating of Loctite 660 Quick Metal Retaining Compound into keyway.
4. Assemble as required.
5. Allow a 30 – to 60 – minute cure time (when using a primer).

Note:

- Loctite 660 Quick Metal Retaining Compound is NOT recommended for lateral gaps exceeding 0.25mm.
- Loctite 660 Quick Metal Retaining Compound is not a metal rebuild product.

SHAFT MOUNTED ASSEMBLIES

REPAIRING BADLY WORN SHAFT



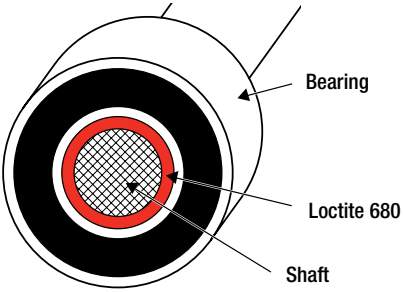
1. Determine a minimum radial gap between shaft and bearing.
2. Select and trim appropriate sleeve to allow component slip fit.
3. Roughen sleeve O.D. with emery cloth.
4. Clean all parts with Loctite ODC-Free Cleaner & Degreaser.
5. Apply a coating of Loctite 680 or Loctite 660 Quick Metal Retaining Compound around the shaft.
6. Install sleeve.
7. Apply a coating of Loctite 660 Quick Metal Retaining Compound to sleeve O.D.
8. Install component as required onto sleeved shaft.
9. Allow a 30 – to 60 – minute cure time (when using a primer).

Note:

- Loctite 660 Quick Metal Retaining Compound is NOT recommended for radial gaps exceeding 0.25mm.
- Loctite 660 Quick Metal Retaining Compound is not a metal rebuild product.

SHAFT MOUNTED ASSEMBLIES

SLIP-FIT - LIGHT/HEAVY DUTY



ORIGINAL

1. Machine shaft to 0.05mm radial slip fit with 50-80 rms finish (second cut).
2. Clean all parts with Loctite ODC-Free Cleaner & Degreaser.
3. Spray all parts (I.D. and O.D.) with Loctite 7649 Primer.
   Do NOT use primer for heavy duty applications.
4. Apply a coating of 680 Quick Metal Retaining Compound around shaft and engagement area.
5. Assemble parts with rotating motion.
6. Wipe off excess.
7. Allow a 2 hours cure time prior to service.

Follow directions above and additionally:

WORN SHAFT

1. Determine radial gap.
2. If radial gap exceeds 0.2mm, Loctite 7649 Primer must be used.
3. Take steps to maintain concentricity with large gaps.
   - Larger gaps require longer cure times (30-60 minutes).
   - Loctite 660 Quick Metal Retaining Compound are NOT recommended for radial gaps exceeding 0.2mm.
   - See procedure for BADLY WORN SHAFT page 22.

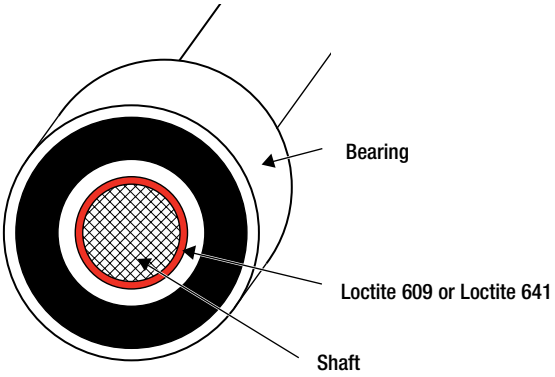
   Note: Loctite 660 Quick Metal Retaining Compound is very fast fixturing (30 seconds or less) with Loctite 7649 Primer.

MAXIMUM TEMPERATURE (230°C continuous)

1. Same as above, except use Loctite 620 Retaining Compound with Loctite 7471 Primer.

SHAFT MOUNTED ASSEMBLIES

PRESS FIT



STANDARD

1. Clean shaft O.D. and component I.D.
2. Apply a bead of Loctite 609 or Loctite 641 Retaining Compound to circumference of shaft at leading edge of insertion or leading area of engagement.

   Note:
   - Retaining compound will always be squeezed to the outside when applied to shaft.
   - Do NOT use with Loctite® Anti-Seizes or similar product.

3. Press as usual. Wipe off excess.

   Note: Loctite 609 or Loctite 641 Retaining Compound is used due to low viscosity and wetting properties.

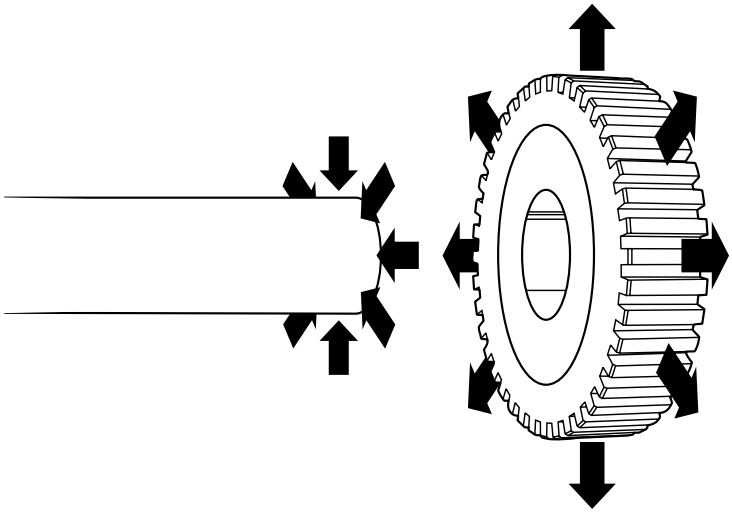
TANDEM MOUNT

1. Apply retaining compound to bore of inside component.
2. Continue assembly as above.

   Note: Loctite 609 and Loctite 641 Retaining Compound are not recommended for radial gaps exceeding 0.1mm.

SHAFT MOUNTED ASSEMBLIES

SHRINK FIT



ASSEMBLY

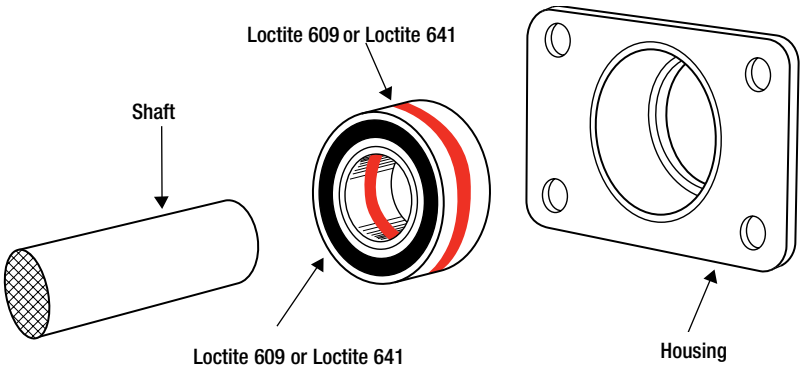
1. Clean the shaft O.D. and component I.D. with Loctite ODC-Free Cleaner.
2. Cool the shaft to cause contraction, or heat the component to cause expansion.
3. Brush a film of Loctite 641 Retaining Compound to the shaft or lower temperature part.
4. Install component and allow temperatures to reach ambient.
5. Wipe off excess.

Note: Loctite 641 Retaining Compound will add lubricity for easier assembly while sealing and protecting the bond area from environmental exposure and filling gaps for a more complete contact area.

Loctite 641 Retaining Compound are not recommended for radial gaps exceeding 0.1mm.

HOUSED COMPONENTS

SLIP FIT



ORIGINAL

1. Select component to fit shaft.
2. Machine to reduce component O.D. or increase housing I.D. to permit approximate 0.05mm to 0.1mm diametral slip fit.
3. Clean all parts with Loctite ODC-Free Cleaner & Degreaser.
4. If required, spray with Loctite 7649 Primer or Loctite 7471 Primer.
5. Apply Loctite 609 or Loctite 641 Retaining Compound to component O.D.
6. Install component. Do not rotate.
7. Wipe off excess.
8. Allow five minutes to cure prior to service.

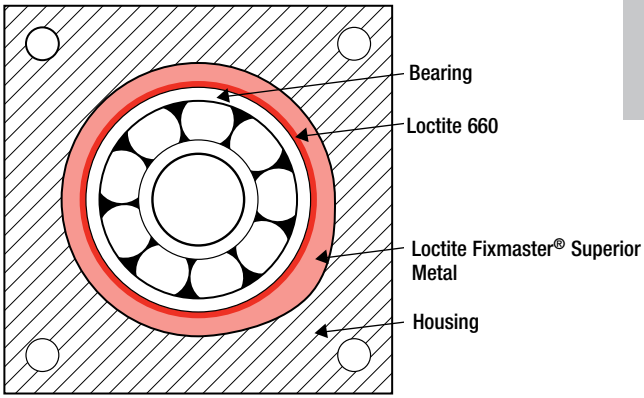
WORN

Procedures identical to original slip fit, and additionally:

1. Determine the maximum radial gap.
2. If the maximum gap exceeds 0.1mm, Loctite 7649 Primer must be used.
3. Take steps to maintain concentricity on large gaps.
   - Large gaps require longer cure times (30-60 minutes).
   - Loctite 660 Quick Metal Retaining Compound IS NOT recommended for radial gaps exceeding 0.25mm.
   - See procedure for BADLY WORN HOUSING page 27.

HOUSED COMPONENTS

REPAIRING BADLY WORN HOUSING



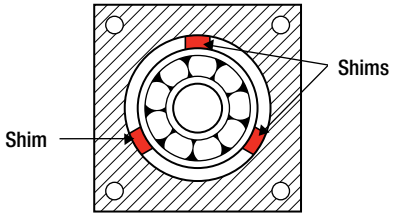
ASSEMBLY

1. Roughen housing I.D. with emery cloth or abrasive media.
2. Clean the housing I.D. with Loctite ODC-Free Cleaner & Degreaser.
3. Clean the component O.D. and apply a release agent.
4. Prepare (mix) Loctite Fixmaster Superior Metal.
5. Apply a coating of Loctite Fixmaster Superior Metal to the I.D. of the housing.
6. Position the component in housing. Maintain concentricity.
7. Pack Loctite Fixmaster Superior Metal into the gaps and voids.
8. Wipe off excess material.
9. Allow to cure 30 minutes.
10. Remove component.
11. Clean the release agent from component O.D.
12. Clean and roughen the housing I.D.
13. Assemble with Loctite 660 Quick Metal Retaining Compound as required.
14. Recommended for light duty service.

Note: This procedure is for use when machining is not an option. If you want a procedure for using Loctite Fixmaster Superior Metal and machining back to original tolerance, then contact your local Henkel Adhesive and Sealants Specialist on 1300 88 555 6.

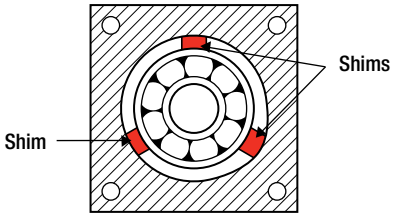
HOUSED COMPONENTS

COMPONENT CENTERING



EXCESSIVE / EVEN WEAR

1. Position the component in bore.
2. Select three equilateral mounting points.
3. Determine the radial gap at those points.
4. Select appropriate shim stock.
5. Cut three pieces approximately 3mm wide to fit bore depth.
6. Bond the shims to bore at mounting points using Loctite 480 Instant Adhesive.
7. Assemble per instructions on page 26.



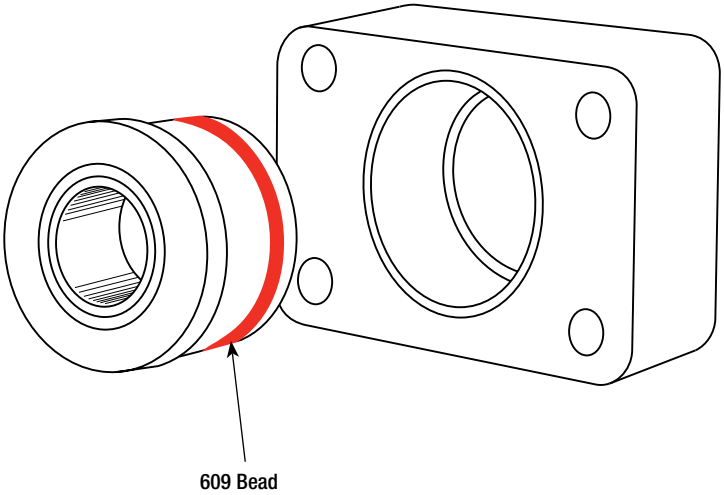
EXCESSIVE / UNEVEN WEAR

1. Position the component in bore.
2. Select three equilateral mounting points.
3. Determine the radial gap at those points.
4. Select and cut appropriate shim stock for each point.
5. Bond the shims to bore at mounting points using Loctite 480 Instant Adhesive.
6. Assemble per instructions on page 27.

Note: • Ensure that assembly time is within product fixturing time.

HOUSED COMPONENTS

SEALING/RETAINING — METALLIC SEAL



1. Clean the housing I.D. and seal O.D. with Loctite ODC-Free Cleaner & Degreaser.
2. Spray both the housing and seal with Loctite 7649 Primer.
3. Apply a bead of Loctite 609 Retaining Compound to the leading edge of metallic seal O.D.
4. Install as usual.
5. Wipe off excess.
6. Allow to cure for 30 minutes.

Note:
- Loctite 609 Retaining Compound is normally used with worn seal housings to prevent leakage or slippage.

RETAINING COMPOUNDS

LOCTITE® RETAINING COMPOUND QUICK SELECTOR

Application	Loctite® Product	Loctite® Primer (if required)
Shaft Mount – Press fit		
Medium Strength	Loctite 609 Retaining Compound	NONE
	Loctite 641 Retaining Compound	NONE
Shaft Mount – Shrink fit		
Medium Strength	Loctite 641 Retaining Compound	NONE
Shaft Mount – Slip Fit		
Small Gap (0.05mm radial max.)	Loctite 609 Retaining Compound	Loctite 7649/7471
Larger Gap (0.25mm radial max.)	Loctite 660 Quick Metal Retaining Compound	Loctite 7471
Maximum Strength (0.1mm radial max.)	Loctite 680 Retaining Compound	Loctite 7471
Maximum Temperature (204°C) (0.2mm radial max.)	Loctite 620 Retaining Compound	Loctite 7649 /7471
Medium Strength	Loctite 641 Retaining Compound	Loctite 7649
Housing Mount – Press Fit		
Maximum Strength	Loctite 609 Retaining Compound	NONE
Medium Strength	Loctite 641 Retaining Compound	NONE
Low Strength	Loctite 243 Threadlocker	NONE
Housing Mount – Slip Fit		
Maximum Strength	Loctite 680 Retaining Compound	NONE
High Strength	Loctite 660 Quick Metal® Retaining Compound	NONE
Medium Strength	Loctite 641 Retaining Compound	Loctite 7649
Low Strength	Loctite 243 Threadlocker	Loctite 7649

Note:

- Softer metals (aluminum, bronze, etc.) provide lower shear strengths than ferrous components.
- Excessive gap reduces shear strengths.
- Ideal surface finish — 50 to 80 rms.

Refer to Technical Data Sheets for more information.

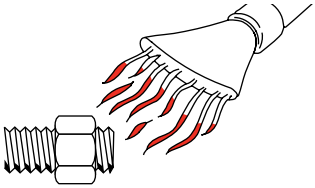
THREADLOCKING, THREAD SEALING & RETAINING

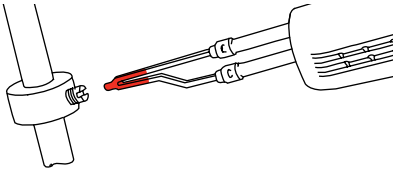
LOW AND MEDIUM STRENGTH PRODUCTS

Disassemble with hand tools.

HIGH STRENGTH PRODUCTS

- Apply localized heat (260°C or higher) to assembly for 5 minutes.
- Disassemble with hand tools while hot.

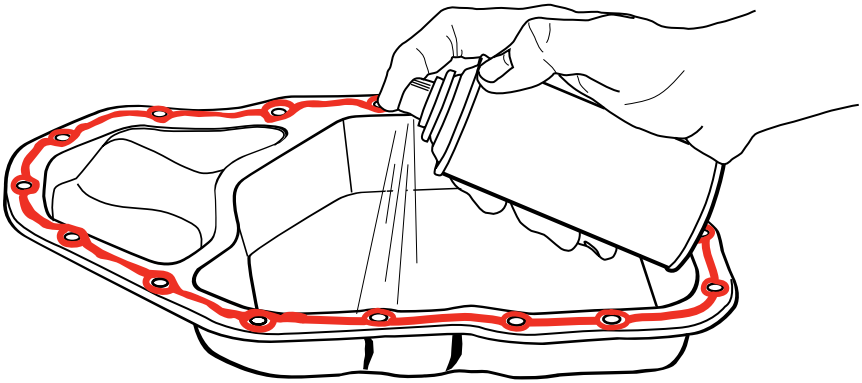




GASKETING

- Disassemble flange using hand tools.

Note: For anaerobic gaskets, clean with Loctite® Chisel® Paint Stripper.



BONDING

INTRODUCTION TO BONDING ADHESIVES

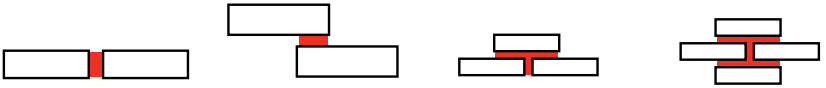
Within the broad range of Loctite adhesives you will always find the solution to your bonding challenge. It is, however, extremely important to have at least a basic knowledge of adhesive methodology in order to bond two substrates together successfully. The three major causes of bonding failures are attributed to:

- Poor evaluation of the bonding assembly
- Inadequate substrate preparation
- Improper adhesive selection
- Unsuitable joint design

BONDING ASSEMBLY

Bonding assembly has a direct impact in the adhesive performance. Choose a combination of types of joints or joint stress distribution that maximizes bonding strength. Below are different types of joints and stress distribution:

TYPES OF JOINTS



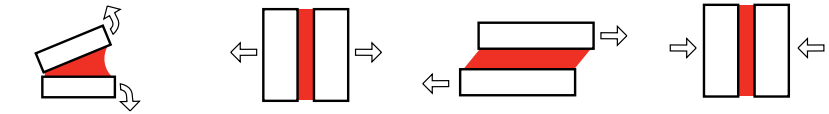
BUTT *FAIR*

OVERLAP *GOOD*

SINGLE STRAP *BETTER*

DOUBLE STRAP *BEST*

TYPES OF JOINT STRESS DISTRIBUTION



CLEAVAGE/PEEL *FAIR*

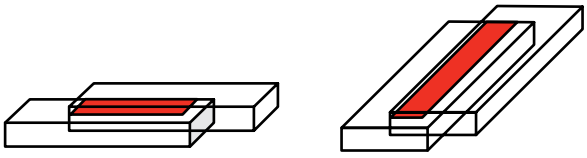
TENSILE *GOOD*

SHEAR *BETTER*

COMPRESSIVE *BEST*

JOINT WIDTH VS. OVERLAP

A wider bond line (Width) will be stronger than a lengthier one (Overlap):



OVERLAP

WIDTH

SURFACE PREPARATION

Abrasive Methods

- Sanding: Rubbing with abrasive paper or cloth (for small area/superficial wear-down)
- Blasting: with abrasive material (for large areas/deep wear-down)

Chemical Methods

Cleaning process that uses solvents to dissolve contaminants.
Chemical examples

- Solvent Wipe: Rubbing with solvent-soaked wipe
- Vapour Degreasing: Solvent in vapour form
- Ultrasonic Cleaning: Solvent dip method with high frequency sound waves that vibrate the dirt away

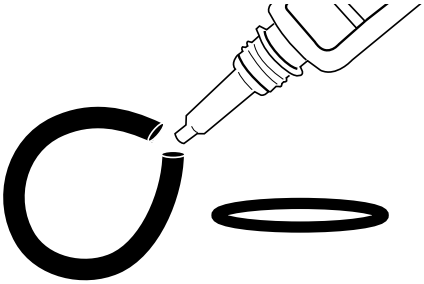
LOCTITE® ADHESIVE QUICK SELECTOR

PRODUCT	TYPICAL APPLICATIONS
Loctite 401- A general purpose Instant Adhesive	Metal, plastic, rubber, cork, wood, paper, leather, etc
Loctite 406 – A low viscosity Instant Adhesive ideal for difficult to bond surfaces	Plastic, rubber, metal, etc
Loctite 454 – A no run, no drip Gel Instant Adhesive suitable for bonding porous materials	Metal, plastic, rubber, cork, wood, paper, leather, etc
Loctite 480 – A high impact, high shear strength, toughened Instant adhesive	Metal, most rubbers, plastics, etc
Loctite TAK PAK KIT – An Instant Adhesive used with spray mist Accelerator Loctite 7452	Components on PC boards, metal, plastic, rubber, etc
Loctite 324 – An Impact Resistant Structural Adhesive for gaps up to 0.5mm. Used with Loctite Activator 7075	Metal, timber, glass
Loctite 330 Multibond – A Structural Adhesive for gaps up to 0.5mm. Used with Loctite Activator 7387	Metal, plastic, timber, glass, etc
Loctite 3801– A five minute, general purpose two part clear epoxy	Metal, timber, ceramic, concrete, fibreglass, etc
Loctite 3805 – A high strength two part Steel and Aluminium Epoxy Filler suitable for gap filling	Metal, timber, ceramic, concrete

Note: Polyeofin plastics require substrates to be primed with Loctite 770 Primer prior to bonding. Refer to TDS

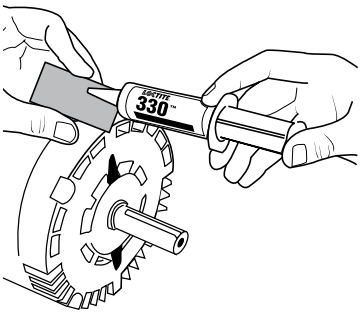
BONDING

O-RING MAKING



1. Cut the starting end of the cord stock with a clean razor blade. Ensure the cut is clean and square. Do not touch the clean cut end.
2. Measure cord stock to appropriate length. For precise measurement, use Loctite O-Ring Tool or the ruler provided in the Loctite O-Ring Making Kit.
3. Cut the measured end of the cord stock with a clean razor blade. Ensure the cut is clean and square to optimize bond area.
4. Apply one drop of Loctite 406 Instant Adhesive and mate the two ends of the cord stock.

BONDING METAL LABEL



1. Clean surface.
2. Spray Loctite 7387 Depend Activator onto main part. Let dry for two minutes.
3. Apply Loctite 330 Depend Adhesive onto back of label.
4. Press label onto activated surface and hold for a few seconds.
5. Handling strength reached in 5 minutes. Full cure in 24 hours.

OPTIMUM USE OF LOCTITE® EXTEND® RUST TREATMENT

SURFACE PREPARATION — OLD STEEL:

Loose or “flaky” rust must be removed. Only conversion of firmly bonded rust will result in durable protection. Oil, grease, old paint, mill scale, form oil, fingerprints, water soluble surfaces and chlorides must be removed to allow Loctite Extend 754 Rust Treatment to react with rust. Ideal surfaces will show light rust as well as bare metal surfaces.

RUST CONVERSION TIME AND APPEARANCE:

Two coats of Loctite 754 Extend Rust Treatment are recommended.

The first coat should develop a purple-black color within seconds. The second coat should dry to a black color. The second coat should be applied within 15-30 minutes of the first coat.

APPLICATION CONDITIONS:

Loctite 754 Extend Rust Treatment may be applied when surface and air are between 10°C and 32°C. Reaction is slower at lower temperatures. If temperature is too hot, film may surface dry and bubble. High humidity is beneficial; it slows drying but assists rust conversion. Loctite 754 Extend Rust Treatment should not be applied in conditions of condensing humidity (e.g., fog, dew), on ice, in rain or in heavy sea (salt) spray atmospheres. Steel surface may be damp but not wet (i.e., continuous visible film of water). DO NOT APPLY LOCTITE 754 EXTEND RUST TREATMENT TO SURFACES IN DIRECT SUNLIGHT.

APPLICATION EQUIPMENT METHODS:

Loctite 754 Extend Rust Treatment may be applied by brush, roller, or spray. Brush or roller is suitable for small areas. Avoid sags and ridges and keep edges wet by coating about a square yard at a time. Roll away from previously coated area and then roll back. Do not pour unused material back into the original container. NEVER add solvents to Loctite 754 Extend Rust Treatment.

Spray application is recommended for larger areas. Airless spray equipment is faster, and provides more effective conversion due to improved surface penetration. Conventional air-spray equipment may be used, but Loctite 754 Extend Rust Treatment may require thinning up to 10% with water for proper spraying.

CLEANING

GENERAL PURPOSE PARTS CLEANING

Loctite ODC-Free Cleaner & Degreaser is a non-aqueous, hydrocarbon-based, non-CFC solvent designed for cleaning and degreasing of surfaces to be assembled with an aerobics or bonded with adhesives and sealants.

TYPICAL APPLICATIONS

Used as a final pre-assembly cleaning treatment to remove most greases, oils, lubrication fluids, metal cuttings and fines.

LOCTITE CHISEL PAINT STRIPPER

Loctite Chisel Paint Stripper removes gasket sealants in 10-15 minutes

Benefits

Removes cured gasket sealants and traditional gaskets in 10 to 15 minutes with minimal scraping. Usable on most types of surfaces is designed to aid removal of cured chemical gaskets by softening the gasket material on the flanges. Once applied, the product develops a foam-like layer on the gasket, preventing it from running off the desired location, thus allowing it to work for the required duration.

Typical applications

It is particularly suitable for removing gaskets from aluminum or other soft metal flanges where excessive scraping could easily lead to flange surface damage . It may also be used to aid removal of adhesives, baked-on grease or oil, built-up carbon deposits, dried oils, paint, varnish, etc. from metal flanges or surfaces.

YUK OFF ORANGE

For fast,effective hand cleaning without skin-irritating petroleum solvents.

YUK OFF Orange hand Cleaner removes grease, grime, oil and ink, and contains aloe as well as lanolin to keep hands from cracking and drying out. It's even biodegradable.

LOCTITE® INDUSTRIAL HAND WIPES

Premoistened with a powerful cleaning formula, Loctite Industrial Hand Wipes are used for removing tar, grease, wax, ink, lubricants and adhesives. While effective on tough grime the fresh citrus scented cleaning formula is enhanced with natural oils and emollients.

The abrasive, yet non-scratching, fabric aids in cleaning and replaces the need for messy and ineffective rags and soap.

Typical applications for this product include maintenace, industrial, plumbing, manufacturing, transportation, painting, marine, agriculture and recreation.

FLUID COMPATIBILITY CHART

for metal threaded fittings sealed with Loctite® Sealants

LIQUIDS, SOLUTIONS & SUSPENSIONS

LEGEND:
- ● Use Loctite 567, 565, 569, 545, 577, 542, 565, 243, 263
- † Use Loctite #277, 271, 554, 270, 277, 554
- ■ Not Recommended
- □ <10% (same as ●) >10% (same as †)
- * <5% (same as ●) <5% (same as †)

Abrasive Coolant	●	Aromatic Gasoline	●	Carboxymethyl Cellulose	●	Dimethyl Sulfoxide	●	Gold Cyanide	●	Lye	■
Acetaldehyde	●	Aromatic Solvents	●	Carnauba Wax	●	Dioxane Dry	●	Granodine	●		
Acetate Solvents	●	Arsenic Acid	●	Casein	●	Dioxidene	●	Grape Pomace Graphite	●	Machine Coating Color	●
Acetimide	●	Asbestos Slurry	●	Casein Water Paint	●	Dipentene - Pinene	●	Grease Lubricating	●	Magnesite Slurry	●
Acetic Acid	●	Ash Slurry	●	Celite	●	Diphenyl	●	Green Soap	●	Magnesite	●
Acetic Acid	□	Asphalt Emulsions	●	Cellosolve §	●	Distilled Water (Industrial)	●	Grinding Lubricant	●	Magnesium Bisulfite	●
Acetic Acid - glacial	●	Asphalt Molten	●	Cellulose Pulp	●	Dowtherm §	●	Grit Steel	●	Magnesium Carbonate	●
Acetic Anhydride	●			Cellulose Xanthate	●	Drying Oil	●	Gritty Water	●	Magnesium Chloride	●
Acetone	●	Bagasse Fibers	●	Cement Dry/Air Blown	●	Dust-Flue (Dry)	●	Groundwood Stock	●	Magnesium Hydroxide	●
Acetyl Chloride	●	Barium Acetate	●	Cement Grout	●	Dye Liquors	●	GRS Latex	●	Magnesium Sulfate	●
Acetylene (Liquid Phase)	●	Barium Carbonate	●	Cement Slurry	●			Gum Paste	●	Maleic Acid	●
Acid Clay	●	Barium Chloride	●	Ceramic Enamel	●	Emery - Slurry	●	Gum Turpentine	●	Maleic Anhydride	●
Acrylic Acid	●	Barium Hydroxide	□	Ceric Oxide	●	Emulsified Oils	●	Gypsum	●	Manganese Chloride	●
Acrylonitrile	●	Barium Sulfate	●	Chalk	●	Enamel Frit Slip	●			Manganese Sulfate	●
Activated Alumina	●	Battery Acid	□	Chemical Pulp	●	Esters General	●	Halane Sol	●	Melamine Resin	●
Activated Carbon	●	Battery Diffuser Juice	●	Chestnut Tanning	●	Ethyl Acetate	●	Halogen Tin Plating	●	Menthol	●
Activated Silica	●	Bauxite (See Alumina)	●	China Clay	●	Ethyl Alcohol	●	Halowax §	●	Mercaptans	●
Alcohol-Allyl	●	Bentonite	●	Chloral Alcoholate	●	Ethyl Amine	●	Harvel-Trans Oil	●	Mercuric Chloride	●
Alcohol-Amyl	●	Benzaldehyde	●	Chloramine	●	Ethyl Bromide	●	Heptane	●	Mercuric Nitrate	●
Alcohol-Benzyl	●	Benzene	●	Chlorinated Hydrocarbons	●	Ethyl Cellosolve §	●	Hexachlorobenzene	●	Mercury	●
Alcohol-Butyl	●	Benzene Hexachloride	●	Chlorinated Paperstock	●	Ethyl Cellosolve Slurry §	●	Hexadiene	●	Mercury Dry	●
Alcohol-Ethyl	●	Benzene in Hydrochloric Acid	●	Chlorinated Solvents	●	Ethyl Formate	●	Hexamethylene Tetramine	●	Methane	●
Alcohol-Furfuryl	●	Benzoic Acid	●	Chlorinated Sulphuric Acids	■	Ethyl Silicate	●	Hexane	●	Methyl Alcohol	●
Alcohol-Hexyl	●	Benzotriazole	●	Chlorinated Wax	●	Ethylene Diamine	●	Hydrazine	●	Methyl Acetate	●
Alcohol-Isopropyl	●	Beryllium Sulfate	●	Chlorine Dioxide	■	Ethylene Dibromide	●	Hydrazine Hydrate	●	Methyl Bromide	●
Alcohol-Methyl	●	Bicarbonate Liquor	●	Chlorine Liquid	■	Ethylene Dichloride	●	Hydrobromic Acid	●	Methyl Carbitol	□
Alcohol-Propyl	●	Bilge Lines	●	Chlorine Dry	■	Ethylene Glycol	●	Hydrochloric Acid	●	Methyl Cellosolve §	●
Alum-Ammonium	●	Bleach Liquor	●	Chloroacetic Acid	□	Ethylenediamine Tetramine	●	Hydrocyanic Acid	●	Methyl Chloride	□
Alum-Chrome	●	Bleached Pulps	●	Chlorobenzene Dry	●			Hydrofluoric Acid	■	Methyl Ethyl Ketone	■
Alum-Potassium	●	Borax § Liquors	●	Chloroform Dry	●	Fatty Acids	●	Hydrogen Peroxide (dil)	●	Methyl Isobutyl Ketone	●
Alum-Sodium	●	Boric Acid	●	Chloroformate Methyl	●	Fatty Acids Amine	●	Hydrogen Peroxide (con)	†	Methyl Lactate	●
Alumina	●	Brake Fluids	●	Chlorosulfonic Acid	■	Fatty Alcohol	●	Hydroponic Sol	●	Methyl Orange	●
Aluminum Acetate	●	Brine Chlorinated	●	Chrome Acid Cleaning	□	Ferric-Floc	●	Hydroquinone	●	Methylamine	●
Aluminum Bicarbonate	●	Brine Cold	●	Chrome Liquor	□	Ferric Chloride	●	Hydroxyacetic Acid	●	Methylene Chloride	●
Aluminum Bifluoride	●	Bromine Solution	†	Chrome Plating Bath	□	Ferric Nitrate	●	Hypo	●	Mineral Spirits	●
Aluminum Chloride	●	Butadiene	●	Chromic Acid 10%	●	Ferric Sulfate	●	Hypochlorous Acid	●	Mixed Acid, Nitric/Sulfuric	■
Aluminum Sulfate	●	Butyl Acetate	●	Chromic Acid 50% (cold)	■	Ferrocence-Oil Sol	●			Monochloracetic Acid	●
Ammonia Anhydrous	■	Butyl Alcohol	●	Chromic Acid 50% (hot)	■	Ferrous Chloride	●	Ink	●	Morpholine	●
Ammonia Solutions	■	Butyl Amine	●	Chromium Acetate	●	Ferrous Oxalate	●	Ink in Solvent-Printing	●	Mud	●
Ammonium Bisulfite	●	Butyl Cellosolve §	●	Chromium Chloride	●	Ferrous Sulfate10%	●	Iodine in Alcohol	●		
Ammonium Borate	●	Butyl Chloride	●	Chromium Sulfate	●	Ferrous Sulfate (Sat)	●	Iodine-Potassium Iodide	●	Nalco Sol.	●
Ammonium Bromide	●	Butyl Ether - Dry	●	Classifier	●	Fertilizer Sol	●	Iodine Solutions	●	Naphtha	●
Ammonium Carbonate	●	Butyl Lactate	●	Clay	●	Flotation Concentrates	●	Ion Exchange Service	●	Naphthalene	●
Ammonium Chloride	●	Butyral Resin	●	Coal Slurry	●	Fluoride Salts	●	Ion Exclusion Glycol	●	Naval Stores Solvent	●
Ammonium Chromate	●	Butyraldehyde	●	Coal Tar	●	Fluorine, Gaseous or Liquid	●	Irish Moss Slurry	●	Nematocide	●
Ammonium Fluoride	●	Butyric Acid	□	Cobalt Chloride	†	Fluorolube	●	Iron Ore Taconite	●	Neoprene Emulsion	●
Ammonium Fluorosilicate	●			Copper Ammonium Formate	●	Fluosilic Acid	●	Iron Oxide	●	Neoprene Latex	●
Ammonium Formate	●	Cadmium Chloride	●	Copper Chloride	●	Flux Soldering	●	Isobutyl Alcohol	●	Nickel Acetate	●
Ammonium Hydroxide	■	Cadmium Plating Bath	●	Copper Cyanide	●	Fly Ash Dry	●	Isobutyraldehyde	●	Nickel Ammonium Sulfate	●
Ammonium Hyposulfite	●	Cadmium Sulfate	●	Copper Liquor	●	Foam Latex Mix	●	Isooctane	●	Nickel Chloride	●
Ammonium Iodide	●	Calcium Acetate	●	Copper Naphthenate	●	Foamite	●	Isopropyl Alcohol	●	Nickel Cyanide	●
Ammonium Molybdate	●	Calcium Bisulfate	●	Copper Plating, Acid Process	●	Formaldehyde (cold)	●	Isocyanate Resin	●	Nickel Fluoborate	●
Ammonium Nitrate	●	Calcium Carbonate	●	Copper Plating, Alk. Process	●	Formaldehyde (hot)	†	Isopropyl Acetate	†	Nickel Ore Fines	●
Ammonium Oxalate	●	Calcium Chlorate	●	Copper Sulfate	●	Formic Acid (Dil cold)	●	Isopropyl Ether	●	Nickel Plating Bright	●
Ammonium Persulfate	●	Calcium Chloride	●	Core Oil	●	Formic Acid (Dil hot)	†	Itaconic Acid	†	Nickel Sulfate	●
Ammonium Phosphate	●	Calcium Chloride Brine	●	Corundum	●	Formic Acid (cold)	●			Nicotinic Acid	□
Ammonium Picrate	●	Calcium Citrate	●	Creosote	●	Formic Acid (hot)	†	Jet Fuels	●	Nitrate Sol.	●
Ammonium Sulfate	●	Calcium Ferrocyanide	●	Creosote-Cresylic Acid	●	Freon §	†	Jeweler's Rouge	●	Nitration Acid(s)	■
Ammonium Sulfate Scrubber	●	Calcium Formate	●	Cyanide Solution	●	Fuel Oil	●	Jig Table Slurry	●	Nitric Acid	■
Ammonium Sulfide	●	Calcium Hydroxide	●	Cyanuric Chloride	●	Fuming Nitric Red	■			Nitric Acid10%	□
Ammonium Thiocyanate	●	Calcium Lactate	●	Cyclohexane	●	Fuming Sulfuric	■	Kaolin-China Clay §	●	Nitric Acid 20%	†
Amyl Acetate	●	Calcium Nitrate	●	Cylinder Oils	●	Fuming Oleum	■	Kelp Slurry	●	Nitric Acid Anhydrous	■
Amyl Amine	●	Calcium Phosphate	●			Furfural	●	Kerosene	●	Nitric Acid Fuming	■
Amyl Chloride	●	Calcium Silicate	●	De-Ionized Water	●			Kerosene Chlorinated	*	Nitro Aryl Sulfonic Acid	●
Aniline	●	Calcium Sulfamate	●	De-Ionized Water Low Conductivity	●	Gallic Acid	●	Ketone	●	Nitrobenezene-Dry	●
Aniline Dyes	●	Calcium Sulfate	●	Detergents	●	Gallium Sulfate	●			Nitrocellulose	●
Anodizing Bath	●	Calcium Sulfite	●	Developer, photographic	●	Gasoline-Acid Wash	●	Lacquer Thinner	●	Nitrofurane	●
Antichlor Solution	●	Camphor	●	Dextrin	●	Gasoline-Alk. Wash	●	Lactic Acid	●	Nitroguanidine	●
Antimony Acid Salts	●	Carbitol	●	Diacetone Alcohol	●	Gasoline Aviation	●	Lapping Compound	●	Nitroparaffins-Dry	●
Antimony Oxide	●	Carbolic Acid (phenol)	□	Diammonium Phosphate	●	Gasoline Copper Chloride	●	Latex-Natural	●	Nitrosyl Chloride	●
Antioxidant Gasoline	●	Carbon Bisulfide	●	Diamylamine	●	Gasoline Ethyl	●	Latex-Synthetic	●	Norite Carbon	●
Aqua Regia	■	Carbon Black	●	Diatomaceaus Earth Slurry	●	Gasoline Motor	●	Latex Synthetic Raw	●	Nuchar	●
Argon	●	Carbon Tetrachloride	●	Diazo Acetate	●	Gasoline Sour	●	Laundry Wash Water	●		
Armeen §	●	Carbonic Acid	□	Dibutyl Phthalate	●	Gasoline White	●	Laundry Bleach	●	Oakite § Compound	●
Arochlor §	●	Carbowax §	●	Dichlorophenol	●	Gluconic Acid	●	Laundry Blue	●	Oil, Creosote	●
				Dichloro Ethyl Ether	●	Glue-Animal Gelatin	●	Laundry Soda	●	Oil, Emulsified	●
				Dicyandamide	●	Glue-Plywood	●	Lead Arsenate	●	Oil, Fuel	●
				Dielectric Fluid	●	Glutamic Acid	●	Lead Oxide	●	Oil, Lubricating	●
				Diester Lubricants	●	Glycerine Lye-Brine	●	Lead Sulfate	■	Oil, Soluble	●
				Diethyl Ether Dry	□	Glycerol	●	Lignin Extract	●	Oleic Acid, hot	●
				Diethyl Sulfate	●	Glycine	●	Lime Slaked	●	Oleic Acid, cold	●
				Diethylamine	●	Glycine Hydrochloride	●	Lime Sulfur Mix	●	Ore Fines-Flotation	●
				Diethylene Glycol	●	Glycol Amine	●	Liquid Ion Exchange	●	Ore Pulp	●
				Diglycolic Acid	□	Glycolic Acid	●	Lithium Chloride	●	Organic Dyes	●
				Dimethyl Formamide	●	Glyoxal	●	LOX (Liquid 02)	■	Oxalic Acid cold	●
						Gold Chloride	●	Ludox	●	Ozone, wet	■

FLUID COMPATIBILITY CHART

for metal threaded fittings sealed with Loctite® Sealants

Paint-Linseed Base	●
Paint-Water Base	●
Paint-Remover-Sol. Type	●
Paint-Vehicles	●
Palmitic Acid	●
Paper Board Mill Waste	●
Paper Coating Slurry	●
Paper Pulp	●
Paper Pulp with Amun.	●
Paper Pulp with Dye	●
Paper Pulp, bleached	●
Paper Pulp, bleached-washed	●
Paper Pulp Chlorinated	●
Paper Groundwood	●
Paper Rag	●
Paper Stocks, fine	●
Paradichlorobenezene	●
Paraffin Molten	●
Paraffin Oil	●
Paraformaldehyde	●
Pectin Solution Acid	●
Pentachlorethane	●
Pentaerythritol Sol.	●
Perchlorethylene (Dry)	●
Perchloric Acid Perchloromethyl Mercaptan	●
Permanganic Acid	■
Persulfuric Acid	■
Petroleum Ether	●
Petroleum Jelly	●
Phenol Formaldehyde Resins	●
Phenol Sulfonic Acid	●
Phenolic Glue	●
Phloroglucinol	●
Phosphate Ester	●
Phosphatic Sand	●
Phosphoric Acid 85% hot	■
Phosphoric Acid 85% cold	†
Phosphoric Acid 50% hot	†
Phosphoric Acid 50% cold	†
Phosphoric Acid 10% cold	●
Phosphoric Acid 10% hot	†
Phosphorous Molten	●
Phosphotungstic Acid	●
Photographic Sol.	●
Phthalic Acid	●
Phytate	●
Phytate Salts	●
Pickling Acid, Sulfuric	●
Picric Acid Solutions	●
Pine Oil Finish	●
Plating Sol. as follows:	
Brass Cyanide	●
Bronze-Cyanide	●
Chromium & Cadmium Cyanide	●
Cobalt Acid	●
Copper Acid	●
Copper Alk.	●
Gold Cyanide	●
Iron-Acid	●
Lead-Fluoro	●
Nickel Bright	●
Platinum	●
Silver-Cyanide	●
Tin-Acid	●
Tin Alk. Barrel	●
Zinc Acid	●
Zinc Alk. Cyanide	●
Polyacrylonitrile Slurry	●
Polypentek	●
Polysulfide Liquor	●
Polyvinyl Acetate Slurry	●
Polyvinyl Chloride	●
Porcelain Frit	●
Potash	●
Potassium Acetate	●
Potassium Alum. Sulfate	●
Potassium Bromide	●
Potassium Carbonate	●
Potassium Chlorate	●
Potassium Chloride Sol	●
Potassium Chromate	●
Potassium Cyanide Sol.	●
Potassium Dichromate	●
Potassium Ferricyanide	●
Potassium Hydroxide	■
Potassium Iodide	●
Potassium Nitrate	●
Potassium Perchlorate	●
Potassium Permanganate	●
Potassium Persulfate	●
Potassium Phosphate	●
Potassium Silicate	●
Potassium Sulfate	●
Potassium Xanthate	●
Press Board Waste	●
Propionic Acid	●
Propyl Alcohol	●
Propyl Bromide	●
Propylene Glycol	●
Pumice	●
Pyranol	●
Pyridine	●
Pyrogallic Acid	●
Pyrogen Free Water	●
Pyrole	●
Pyromellitic Acid	●
Quebracho Tannin	●
Rag Stock Bleached	●
Rare Earth Salts	●
Rayon Acid Water	●
Rayon Spin Bath	●
Rayon Spin Bath spent	●
Resorcinol	●
River Water	●
Road Oil	●
Roccal	●
Rosin-Wood	●
Rosin in Alcohol	●
Rosin Size	●
Rubber Latex	●
Safrol	●
Salt Alkaline	●
Salt Electrolytic	●
Salt Refrg.	●
Sand-Air Blown Slurry	●
Sand-Air Phosphatic	●
Sea Coal	●
Sea Water	●
Selenium Chloride	●
Sequestrene	●
Sewage	●
Shellac	●
Shower Water	●
Silica Gel	●
Silica Ground	●
Silicone Tetrachloride	●
Silicone Fluids	●
Silver Cyanide	●
Silver Iodide-Aqu.	●
Silver Nitrate	●
Size Emulsion	●
Skelly Solve E, L	●
Slate to 400 Mesh	□
Soap Lye	●
Soap Solutions (Stearates)	●
Soap Stone Air Blown	●
Soda Pulp	●
Sodium Acetate	●
Sodium Acid Fluoride	●
Sodium Aluminate	●
Sodium Arsenate	●
Sodium Benzene Sulfonate	●
Sodium Bichromate	●
Sodium Bisulfite	●
Sodium Bromide	●
Sodium Carbonate	●
Sodium Chlorate	●
Sodium Chlorite	●
Sodium Cyanide	●
Sodium Ferricyanide	●
Sodium Formate	●
Sodium Glutamate	●
Sodium Hydrogen Sulfate	●
Sodium Hydrosulfite	●
Sodium Hydrosulfide	●
Sodium Hydrochloride	●
Sodium Hydroxide	■
Sodium Hydro. 20% cold	●
Sodium Hydro. 20% hot	†
Sodium Hydro. 50% cold	†
Sodium Hydro. 50% hot	■
Sodium Hydro. 70% cold	†
Sodium Hydro. 70% hot	■
Sodium Hypochlorite	●
Sodium Lignosulfonate	●
Sodium Metasilicate	●
Sodium Molten	●
Sodium Nitrate	●
Sodium Nitrite-Nitrate	●
Sodium Perborate	●
Sodium Peroxide	●
Sodium Persulfate	●
Sodium Phosphate-Mono	●
Sodium Phosphate-Tri	●
Sodium Potassium Chloride	●
Sodium Salicylate	●
Sodium Sesquicarbonate	●
Sodium Silicate	●
Sodium Silcofluoride	●
Sodium Stannate	●
Sodium Sulfate	●
Sodium Sulfide	●
Sodium Sulfite	●
Sodium Sulfhydrate	●
Sodium Thiocyanate	●
Sodium Thiosulfate	●
Sodium Tungstate	●
Sodium Xanthate	●
Solox-Denat. Ethanol	●
Soluble Oil	●
Solvent Naphthas	●
Sorbic Acid	●
Sour Gasoline	●
Soybean Sludge-Acid	●
Spensol Solution	●
Stannic Chloride	●
Starch	●
Starch Base	●
Steam Low Pressure	●
Stearic Acid	●
Steep Water	●
Sterilization Steam	●
Stillage Distillers	●
Stoddard Solvent	●
Styrene	■
Styrene Butadiene Latex	●
Sulfamic Acid	●
Sulfan-Sulfuric Anhydride	●
Sulfathiazole	●
Sulfite Liquor	●
Sulfite Stock	●
Sulfonated Oils	●
Sulfones	●
Sulfonic Acids	●
Sulfonyl Chloride	●
Sulfur Slurry	●
Sulfur Solution in Carbon Disulfide	●
Sulphuric Acid 0-7%	†
Sulphuric Acid 7-40%	†
Sulphuric Acid 40-75%	†
Sulphuric Acid 75-95%	■
Sulphuric Acid 95-100%	■
Sulphurous Acid	†
Sulfuryl Chloride	●
Surfactants	●
Synthetic Latex	●
Taconite - Fines	●
Talc - Slurry	●
Tankage - Slurry	●
Tannic Acid (cold)	†
Tamin	●
Tar & Tar Oil	●
Tartaric Acid	●
Television Chemicals	●
Tergitol §	●
Terpineol	●
Tetraethyl Lead	●
Tetrahydrofuran	●
Tetranitromethane	●
Textile Dyeing	●
Textile Finishing Oil	●
Textile Printing Oil	●
Thiocyanic Acid	●
Thioglycollic Acid	●
Thionyl Chloride	●
Thiophosphoryl Chloride	●
Thiourea	●
Thorium Nitrate	●
Thymol	●
Tin Tetrachlorida	●
Tinning Sol. DuPont	●
Titania Paper Coating	●
Titanium Oxide Slurry	●
Titanium Oxy Sulfate	●
Titanium Sulfate	●
Titanium Tetrachloride	●
Toluol	●
Toluene	●
p-Toluene Sulfonic Acid	†
Transil Oil	●
Trichloracetic Acid	●
Trichlorethane 1,1,1	●
Trichlorethylene	●
Trichlorethylene-Dry	●
Tricresyl Phosphate	●
Triethanolamine	●
Triethylene Glycol	●
Trioxane	●
Tungstic Acid	●
Turpentine	●
UCON § Lube	●
Udylite Bath-Nickel	●
Undecylenic Acid	●
Unichrome Sol. Alk.	●
Uranium Salts	●
Uranyl Nitrate	●
Uranyl Sulfate	●
Urea Ammonia Liquor	●
Vacuum to 100 Micron	●
Vacuum below 100 Micr.	●
Vacuum Oil	●
Vanadium Pentoxide	●
Slurry	●
Varnish	●
Varsol-Naphtha Solv.	●
Versene §	●
Vinyl Acetate Dry or Chloride Monomer	†
Vinyl Chloride Latex Emul.	†
Vinyl Resin Slurry	●
Viscose	●
Vortex-Hydroclone	●
Water-Acid - Below pH7	●
Water pH7 to 8	●
Water Alkaline - Over pH8	●
Water Mine Water	●
Water River	●
Water Sandy	●
Water "White" - low pH	●
Water "White" - high pH	●
Wax	●
Wax Chlorinated	●
Wax Emulsions	●
Weed Killer Dibromide	●
Weisberg Sulfate Plating	●
Wood ground pulp	●
Wort Lines	●
X-Ray Developing Bath	●
Xylene	●
Zelan	●
Zeolite Water	●
Zinc Acetate	●
Zinc Bromide	●
Zinc Chloride	●
Zinc Cyanide-Alk.	●
Zinc Fines Slurry	●
Zinc Flux Paste	●
Zinc Galvanizing	●
Zinc Hydrosulfite	●
Zinc Oxide in Water	●
Zinc Oxide in Oil	●
Zinc Sulfate	●
Zincolate	●
Zirconyl Nitrate	●
Zirconyl Sulfate	●

GASES

Acetylene	●
Acid & Alkali Vapours	●
Air	●
Amine	●
Ammonia	●
Butane	●
Butadiene Gas/Liquid	●
Butylene Gas/Liquid	●
By-Product Gas (Dry)	●
Carbon Dioxide	●
Carbon Disulfide	●
Carbon Monoxide	●
Chloride Dry	●
Chlorine Dry	■
Chlorine Wet	■
Coke-oven Gas-cold	●
Coke-oven Gas-hot	†
Cyanogen Chloride	●
Cyanogen Gas	●
Ethane	●
Ether-see Diethyl Ether	●
Ethylene	●
Ethylene Oxide	●
Freon § (11-12-21-22)	†
Furnace Gas hot	†
Furnace Gas cold	●
Gas drip oil	●
Gas flue	●
Gas manufacturing	●
Gas natural	●
Helium	●
Hydrogen Gas-cold	●
Hydrogen Chloride	●
Hydrogen Cyanide	●
Hydrogen Sulfide wet & dry	●
Isobutane	●
Methane	●
Methyl Chloride	●
Natural gas dry	●
Nitrogen gas	●
Nitrous Oxide	●
Oil-Solvent Vapor	●
Oxygen	■
Ozone	■
Producer Gas 50 PSI	●
Propane	●
Propylene	●
Steam	■
Sulfur Dioxide	●
Sulfur Dioxide dry	●
Sulfur Trioxide Gas	■
Sulfuric Acid Vapor	●

NOTE:

1. The above information does not constitute a recommendation of sealant use. It is intended only as a guide for consideration by the purchaser with the expectation of favorable confirming test results. It is impossible to test sealant reaction with the multitude of chemicals in existence, therefore, compatibility has been estimated based on a wide variety of customer experience.
2. With the stringent action of such chemicals as Freon, strong cold acids and caustics, thorough evaluation is suggested. Sealing of hot corrosive chemicals is not recommended.
3. Contact Loctite Corporation for use with chemicals not covered by this information.

§Listing(s) may be Brand Name(s) or Trademarks for chemicals of Corporations other than Loctite.

Loctite product numbers in red are worldwide or application-specific products

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ORDERING

PRODUCT LISTING/ORDER INFO.

CATEGORY	SIZE	ITEM NO.
THREADLOCKERS		
LOCTITE 222 LOW STRENGTH SUPER SCREW LOCK	10 ml bottle 50 ml bottle 250 ml bottle	22220 22250 45083
LOCTITE 243 MEDIUM STRENGTH SUPER NUT LOCK	10 ml bottle 50 ml bottle 250 ml bottle	44089 44092 44094
LOCTITE 263 HIGH STRENGTH SUPER STUD LOCK	10 ml bottle 50 ml bottle 250 ml bottle	44279 44130 44131
LOCTITE 290 MEDIUM STRENGTH SUPER WICK-IN	10 ml bottle 50 ml bottle 250 ml bottle	29020A 45076 30937
THREAD SEALANTS		
LOCTITE 569 HYDRAULIC/PNEUMATIC SEALANT	50 ml bottle 250 ml tube	56950 56970
LOCTITE 542 HYDRAULIC/PNEUMATIC SEALANT	10 ml tube 50 ml tube	25344 54294
LOCTITE 567 MASTER PIPE SEALANT	50 ml tube 250 ml tube	56747A 56741
LOCTITE 577 UNIVERSAL PIPE SEALANT	50 ml tube 250 ml tube	19259 34112
LOCTITE 55 PIPE SEALANT CORD	150m	31899
RETAINING COMPOUNDS		
LOCTITE 609 MEDIUM/HIGH STRENGTH GENERAL PURPOSE	10 ml bottle 50 ml bottle 250 ml bottle	30013 30015 30014
LOCTITE 620 HIGH STRENGTH HIGH TEMPERATURE	50 ml bottle 250 ml bottle	62050 62070
LOCTITE 660 QUICK METAL HIGH STRENGTH PRESS FIT REPAIR	6 ml tube 50 ml tube	66010 66040
LOCTITE 680 HIGH STRENGTH/HIGH VISCOSITY	50 ml bottle 250 ml bottle	68050 68070
LOCTITE 641 MEDIUM STRENGTH BEARING MOUNT	10ml bottle 50ml bottle 250ml bottle	21314 45079 45081

PRODUCT LISTING/ORDER INFO.

CATEGORY	SIZE	ITEM NO.
GASKETING		
LOCTITE 510 GASKET ELIMINATOR HIGH TEMPERATURE	50 ml tube 250 ml tube	45077 45082
LOCTITE 515 MASTER ELIMINATOR	6 ml tube 50 ml tube 300 ml cartridge	51517 51531A 33530
LOCTITE 518 FLANGE SEALANT	6 ml tube 25 ml syringe 50 ml tube 300 ml cartridge	51817 51827 25583A 51845
LOCTITE 5900 INSTANT GASKET (aerosol)	190ml	40479
LOCTITE 5900 HEAVY BODIED BLACK SILICONE	390g cartridge	20166
LOCTITE 5910 BLACK MAXX RTV SILICONE GASKET MAKER	50g tube	39306
LOCTITE 587 BLUE MAXX RTV SILICONE GASKET MAKER	95g tube 300ml cartridge	34848 34888
LOCTITE 5920 COPPER MAXX RTV SILICONE GASKET MAKER	85g tube	34249
LOCTITE 5699 GREY MAXX RTV SILICONE GASKET MAKER	95g tube 300ml cartridge	34238 18581A
ADHESIVES		
LOCTITE 330 MULTIBOND NO-MIX Also (see LOCTITE Activator 7387)	300 ml cartridge	33064
LOCTITE 401 PRISM ULTRA FAST INSTANT ADHESIVE	25ml bottle 100ml bottle 500ml bottle	40124-25 33531 33532
LOCTITE 406 PRISM HIGH PERFORMANCE INSTANT ADHESIVE	25ml bottle 100ml bottle 500ml bottle	40633-25 33533 33534
LOCTITE 454 PRISM SURFACE INSENSITIVE INSTANT ADHESIVE GEL	3 gm tube 20 gm tube 200g tube	45404 A045416 45474
LOCTITE 480 PRISM TOUGHENED INSTANT ADHESIVE	25ml bottle 500g bottle	16819-25 16887
LOCTITE 3805 STEEL & ALUMINIUM FILLER EPOXY	56g tube	24180

ORDERING

CATEGORY	SIZE	ITEM NO.
PRIMERS		
LOCTITE 7471 PRIMER T (Acetone)	133g 3.78L Can	22477 24062A
LOCTITE 7649 PRIMER N (Acetone)	100ml 133ml Aerosol 3.78L Can	22410A 21348 24063A
LOCTITE 770 PRISM PRIMER (Heptane)	100ml bottle 946ml	29520A 24377A
LOCTITE 7387 330 ACTIVATOR	100ml 946ml	24058A 24059A
LOCTITE 7452 TAK PAK ACCELERATOR	20g aerosol 946ml	21520 24064A
LUBRICANTS		
LOCTITE C5-A COPPER ANTI-SEIZE	453g brush top aerosol 4oz	51007 51144
LOCTITE 771 NICKEL ANTI-SEIZE	500g	39163
LOCTITE SILVER GRADE ANTI-SEIZE	200g aerosol 250g tube 500g brush top 236ml brush top 5kg pail	76756 76741 76769 76732 76731
CLEANERS		
LOCTITE YUK OFF ORANGE pumice formula (lotion)	400ml bottle 4L pump bottle 15L pump	31908 31909 31910
LOCTITE ODC-FREE CLEANER & DEGREASER	473ml pump spray	20162
LOCTITE INDUSTRIAL HANDWIPES	75 pack 130 pack	34943 34944
GENERAL MAINTENANCE		
LOCTITE 754 EXTEND RUST TREATMENT	946ml bottle 3.78L bottle	75430 75448
LOCTITE O-RING SPLICING KIT “Inch”	Kit	10361
LOCTITE O-RING SPLICING KIT “Metric”	Kit	16224
LOCTITE FIXMASTER METAL MAGIC STEEL STICK	113g	98853

TROUBLESHOOTING

CHECKLIST

1. What type of failure is occurring? Has the application worked before?
2. Was proper and adequate adhesive/sealant used?
3. Was proper and adequate primer/activator used?
4. Do service conditions exceed the capability of the adhesive sealant?
   (a) operating temperature (c) fluid compatibility
   (b) excessive pressure too soon (d) impact on environment
5. Were parts adequately cleaned prior to applying adhesive?

   Note: If adhesive failure, is cured residue on one or both parts?
   If one part is bare, check that part for contamination.
6. Were proper assembly techniques utilized?
7. Was adhesive/sealant allowed adequate cure time prior to service?
8. Do assembly/part conditions exceed capability of the adhesive/sealant?
   (a) excessive gaps (c) improper joint design
   (b) component materials (d) inadequate clamping/fixturing
9. If additional assistance is required, please call our HENKEL TECHNICAL INFORMATION LINE 1300 88 555 6.

Note: Reference Materials

- Product selection, cure times, gap fill, etc.; use Product Selector Guide
- Fluid Compatibility Chart
  Always refer to the latest MSDS and TDS available for each product

LIMITATION OF WARRANTY

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